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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/027,708	12/19/2001	James Holt	M-11811 US	4177

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PHILIP W WOO  
SIDLEY AUSTIN BROWN & WOOD LLP  
555 CALIFORNIA STREET  
SUITE 500  
SAN FRANCISCO, CA 94104-1715

EXAMINER

LAXTON, GARY L

ART UNIT PAPER NUMBER

2838

DATE MAILED: 07/09/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/027,708

Applicant(s)

HOLT ET AL.

Examiner

Gary L. Laxton

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-15 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-15 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 19 December 2001 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.  
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).  
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)                      4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_.
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)                      5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 2.                      6) ☐ Other:

## **DETAILED ACTION**

### ***Inventorship***

1. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

### ***Drawings***

2. The drawings are objected to because at least figures 1 and 4 should have descriptive labels identifying the different controllers. e.g. controller and over-voltage controller etc... A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

3. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the voltage regulator

comprising a linear regulator of claim 3 including the claim limitations of claim 1 must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

### ***Specification***

4. The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.
5. The specification has not been checked to the extent necessary to determine the presence of all possible minor errors. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification.
6. Applicant is reminded of the proper language and format for an abstract of the disclosure.

The abstract should be in narrative form and generally limited to a single paragraph on a separate sheet within the range of 50 to 150 words. It is important that the abstract not exceed 150 words in length since the space provided for the abstract on the computer tape used by the printer is limited. The form and legal phraseology often used in patent claims, such as "means" and "said," should be avoided. The abstract should describe the disclosure sufficiently to assist readers in deciding whether there is a need for consulting the full patent text for details.

The language should be clear and concise and should not repeat information given in the title. It should avoid using phrases which can be implied, such as, "The disclosure concerns," "The disclosure defined by this invention," "The disclosure describes," etc.

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Applicant should remove any legal phraseology in the abstract, such as "in one embodiment"

***Claim Rejections - 35 USC § 102***

7. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

8. Claims 1-8, 12 and 13 are rejected under 35 U.S.C. 102(a) as being anticipated by prior art reference publication "Maxim Integrated products – CPU Step-Down Controller (IMVP-II) (MAX1718)" (hereafter "Maxim").

Concerning claims 1, 3, 4 and 12, Maxim discloses a circuit for providing a regulated voltage, page 13 figure 2 (e.g. switching regulator MAX1718), comprising: an upper transistor connected (page 11 figure 1: Q1) to an input voltage from a voltage source, the upper transistor (page 11 figure 1: Q1) having a control terminal (page 13 figure 2: DH); a lower transistor (figure 1: Q2) connected to the upper transistor (figure 1 or 2), the lower transistor having a control terminal (figure 2: DL); a voltage regulator (figure 2: MAX1718) connected to receive the regulated voltage (figure 2: feedback: FB), the voltage regulator operable to generate a first control signal applied to the control terminal of the upper transistor (DH), and further operable to generate a second control signal applied to the control terminal of the lower transistor (DL); and a voltage protection circuit (figure 2: OVP/UV P DETECT) comprising: an over-voltage detector circuit powered by the regulated voltage operable (e.g. feedback, FB) to detect an over-voltage condition and further operable to generate an over-voltage detected signal (e.g. OVP), wherein

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the over-voltage detected signal causes the lower transistor to draw sufficient current from the voltage source such that the over-voltage condition is abated (page 22 col. 2 under Output Overvoltage Protection).

concerning claim 2, the over-voltage detector circuit is powered solely by the regulated voltage (figure 2: OVP/UVF DETECT; feedback, FB).

Concerning claims 5 and 13, wherein the switching regulator comprises a pulse width modulator (figure 2; see also at least page 1 – “Quick PWM architecture”).

Concerning claims 6-8, wherein: the voltage protection circuit is operable to generate a clamp signal in response to the over-voltage detected signal, wherein the clamp signal is supplied to the control terminal of the lower transistor and wherein the clamp signal causes the lower transistor to draw sufficient current from the input voltage source such that the over-voltage condition is abated. Also, the over-voltage condition is abated by causing the voltage source to shut down. And finally, the over-voltage condition is abated by shunting the regulated voltage. (page 22 col. 2 under Output Overvoltage Protection).

9. Claims 9, 14 and 15 are rejected under 35 U.S.C. 102(b) as being anticipated by Lorincz et al.

Concerning claims 9 and 14, Lorincz et al disclose a circuit for protecting against over-voltage (figure 3) comprising: an over-voltage detector (21) powered by a regulated voltage (figure 2: 23; figure 3: 23, 23) operable to generate an over-voltage detected signal; an amplifier (27) powered by the regulated voltage (23/22) operable to generate a trigger signal in response to the over-voltage detected signal; and a thyristor (figure 2: 19) adapted to clamp the regulated voltage

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in response to the trigger signal.

Concerning claim 15, the thyristor is a silicon-controlled rectifier (figure 2: SCR (26)).

***Claim Rejections - 35 USC § 103***

10. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

11. Claims 10 and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lorincz et al in view of Koelling et al.

Lorincz et al disclose the claimed invention as stated above in regards to claim 9 except for the over-voltage detector is a self-regulating bandgap detector.

Koelling et al teach a self-regulating highly stable voltage detector having improved characteristics.

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to utilize a self-regulating bandgap detector in the over-voltage detector circuit of Lorincz et al in order to provide a highly stable voltage detector having improved characteristics to satisfy the high demand for carefully regulated and highly stable voltage signals for use in integrated circuits and to provide high accuracy in detecting voltages as taught by Koelling et al (col. 4 lines 25-60; abstract).

Concerning claim 11, the thyristor of Lorincz et al comprises a silicon controlled rectifier (figure 2: SCR (26)).

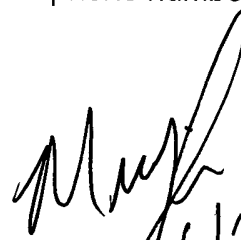
**Conclusion**

12. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. US 5,057,709 Petty et al disclose a self-regulating current threshold detector.

13. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Gary L. Laxton whose telephone number is (703) 305-7039. The examiner can normally be reached on Monday thru Thursday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Sherry can be reached on (703)308-1680. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 305-7724 for regular communications and (703) 308-7722 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.

  
6/30/03  
MICHAEL SHERRY  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 2800